

Registration of Optional Kernel Subsystems

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Problem description

- ▶ No easy way for userland applications to know what components are usable in the currently running kernel
- ▶ Very low number of features that are actually registered now
- ▶ No way to spoof the existence of different features (e.g., when the ports build cluster is building for older FreeBSD versions in a jail.)



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What was done during SoC 2010

- ▶ Approx. 80 feature definitions were added
- ▶ Implemented “spoof-off” of features (FEATURES_DISABLE environment variable) in feature_present(3)
- ▶ feature_present(1) application for using in shell scripts, Makefiles, etc



Example output

Some features that are available with applied patch

```
% sysctl kern.features
kern.features.geom_part_ebr: 1
kern.features.geom_part_gpt: 1
kern.features.geom_part_mbr: 1
kern.features.geom_shsec: 1
kern.features.kposix_priority_scheduling: 1
kern.features.ktrace: 1
kern.features.invariant_support: 1
...
kern.features.hwpmc_hooks: 1
kern.features.stack: 1
...
kern.features.nfsclient: 1
kern.features.nfsserver: 1
kern.features.audit: 1
```



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What is left to be done

- ▶ Write man page for `feature_present(1)`, extend for `feature_present(3)`
- ▶ Some style(9) cleanup (mostly newline fixes)
- ▶ Get this all committed :-)
- ▶ Continue adding new features
- ▶ (Maybe) add some ports/Mk/* stuff
`USE_FEATURES=sctp mac ktrace`



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Thank you for your attention!
Q?



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